

more computationally efficient programming languages (such as C) are preferred; concerns regarding model transparency using compiled languages are best addressed via thorough documentation and model testing.

#### CONCEPTUAL PAPERS & RESEARCH ON METHODS— Patient-Reported Outcomes Studies

PMC22

##### THE IMPACT OF COMORBIDITY BURDEN AND AGE ON PREFERENCE-BASED HRQL IN THE UNITED STATES

Sullivan PV, Ghushchyan VH

University of Colorado Denver, Aurora, CO, USA

**OBJECTIVES:** Gains in life expectancy have led to aging populations with more chronic comorbidity. This study aims to examine the impact of age and comorbidity on EQ-5D index scores in a nationally representative sample of the U.S. **METHODS:** The pooled 2001 and 2003 Medical Expenditure Panel Survey (MEPS) was used. MEPS is a nationally representative survey of the U.S. civilian, noninstitutionalized population based on self-report which collects detailed information on socio-demographic characteristics, medical conditions and HRQL. The total number of chronic conditions for each individual was calculated based on ICD-9 codes. Spline regression was used to allow for nonlinear age effects: individuals were separated into 4 quartiles based on age: 18–31; 32–44; 45–58; and >58 years. Censored least absolute deviations (CLAD), Tobit and OLS methods were used to regress EQ-5D index scores on age and chronic comorbidity, controlling for income, gender, race, ethnicity, education, physical activity and smoking status. Interactions between age and chronic conditions were also explored. **RESULTS:** After controlling for chronic comorbidities and other confounders, age was not statistically significant except for those >58 years and the magnitude of this coefficient was very small (coefficient age >58 years = –0.0006). However, the coefficients for chronic comorbidities were highly statistically significant with large magnitudes for those with  $\geq 2$  chronic conditions (coefficient 2 chronic conditions = –0.16; coefficient 9 chronic conditions = –0.28). Having only one chronic condition was not statistically significant. The interaction between age and chronic comorbidity was significant, but the deleterious impact of their interaction was largely dominated by the existence and number of chronic conditions. **CONCLUSIONS:** Chronic conditions have a significant deleterious impact on EQ-5D index scores regardless of age. The negative impact of age on EQ-5D index scores may be due to the existence and degree of chronic comorbidity.

PMC23

##### WHAT IS POLITICIAN'S AND CLINICIAN'S WILLINGNESS TO PAY (WTP) FOR FUTURE HEALTH BENEFIT BASED ON 15D, EQ-5D AND LIFE-YEARS? A CONTINGENT VALUATION (CV) AMONG 8 DISEASES WITH THE TOTAL OF 1092 CASES

Soini EJ<sup>1</sup>, Kukkonen J<sup>2</sup>, Myllykangas M<sup>3</sup>, Rynänen OP<sup>4</sup>

<sup>1</sup>ESIOR Oy, Department of Health Policy and Management, and Department of Social Pharmacy, University of Kuopio, Kuopio, Finland, <sup>2</sup>Kuntohovi Spa, Joensuu, Finland, <sup>3</sup>University of Kuopio, Kuopio, Finland, <sup>4</sup>University of Kuopio and Kuopio University Hospital, Kuopio, Finland

**OBJECTIVES:** To estimate WTP (€, 2006 value) per incremental quality-adjusted life-year (QALY) gained for a future health technology when compared to the current technology in the treatment of a particular disease. Secondly, WTP for incremental life-year gained (LYG), and WTP for average QALY and LY were estimated. **METHODS:** For the first time in the Finnish setting,

CV was used to establish WTP for health benefits that do not have market prices. A postal survey including 8 diseases (1092 cases in total) with dichotomous choice (DC) type questions was carried out to clinicians (N 197) and political decision makers (N 225). Based on the answers with varying costs for health benefit, aggregate demand functions (ADF) were drawn and the mean WTP for particular benefit in particular disease was estimated as the area under ADF. As a new innovation, the potential future order of disease priority in terms of WTP was established by estimating cumulative marginal changes (CMC) in ADF. The care costs and utilities were obtained from recent Finnish literature. Discounting with 5% and 0% was done due to the life-time perspectives. **RESULTS:** The mean WTP per incremental QALY gained with 15D/EQ-5D utilities were the following (CMCs are in the parentheses): neurological disturbance €420,921/46,8004 (€147,653/164,168), metabolic disturbance €320,974/333,961 (€118,823/123,631), cancer €127,937/138,308 (€61,611/66,604), dementia €100,536/107,731 (€40,830/43,731), paraplegia €124,544/563,41 (€35,013/15,839), coronary heart disease €48,381/50,928 (€15,191/15,989), type 1 diabetes €107,114/548,63 (€19,989/10,238), and narcomaniac €30,859/45,106 (€7,705/14,231). WTPs for incremental LYG, average QALY and LY were lower. The difference between EQ-5D and 15D WTP exceeded 10% in paraplegia, diabetes, narcomaniacs, and neurological disease. This demonstrated that the results obtained using different utility tools differ even in the ADF-setting. **CONCLUSIONS:** Depending on the disease and utility tool, CV based on DCs seems to result to different ADFs and WTPs. By estimating CMCs from ADFs, potential future order for diseases is estimated.

PMC24

##### SELF-ASSESSED HEALTH STATUS IN POLAND: EQ-5D FINDINGS FROM POLISH VALUATION STUDY

Golicki D<sup>1</sup>, Niewada M<sup>2</sup>, Jakubczyk M<sup>1</sup>, Wrona W<sup>1</sup>, Dwojak A<sup>3</sup>, Gasiewska A<sup>3</sup>, Holownia M<sup>3</sup>, Koltowski L<sup>3</sup>, Macioch T<sup>1</sup>, Hermanowski T<sup>1</sup><sup>1</sup>Department of Pharmacoeconomics, Medical University of Warsaw,Warsaw, Poland, <sup>2</sup>Department of Experimental and Clinical Pharmacology, Medical University of Warsaw, Warsaw, Poland,<sup>3</sup>Medical University of Warsaw, Warsaw, Poland

No population norms for any generic health related quality of life questionnaire are currently available in Poland. **OBJECTIVES:** To measure the health of a representative sample of the general population of Poland by using EuroQol questionnaire. **METHODS:** Visitors of patients in seven medical centers in Warsaw, Skierniewice and Pulawy, aged 18 and over, were interviewed during Polish EQ-5D valuation study. Stratified quota sampling was used. Respondents completed EQ-5D questionnaire and provided information on age, sex, marital state, education, employment, income, housing tenure, medical history and smoking behaviour. The interviews took place since February till May 2008. **RESULTS:** The final sample comprising 317 subjects (62% Warsaw residents) was representative of the general population with respect to age and sex. A moderate problem on at least one dimension was reported by 57% respondents, whereas only 4.7% of respondents reported any extreme problem. Forty percent of respondents reported any problems with pain or discomfort, 38% with anxiety or depression, 16% with mobility, 13% with usual activities and 3% with self care. The mean state of health recorded on the visual analogue scale was 81.6 (SD 14.4). The mean VAS value decreased from about 87 and 91 in the youngest age group to 67 and 72 in the oldest age group, in men and women respectively. **CONCLUSIONS:** Pain and anxiety are commonly reported in Polish society.